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METHOD AND APPARATUS FOR *CLEANING* SILICON *WAFER* AT LOW TEMPERATURE

PUB. NO.: 63-155729 [JP 63155729 A]

PUBLISHED: June 28, 1988 (19880628)

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APPL. NO.: 61-303323 [JP 86303323]

FILED: December 19, 1986 (19861219)

ABSTRACT

PURPOSE: To *freeze* *water* around foreign matter adhering to a wafer as a nucleus and to remove it by *cleaning* the *wafer*, then mixing low temperature gas with the cleaned *water* to set it to two states of liquid before *freezing* and solid.

CONSTITUTION: Cleaning *water* 3 of pure *water* is filled in a cleaning tank 2, maintained at approximately 5 deg.C, and a wafer 1 is cleaned. After the cleaning is finished, low temperature gas, such as liquid nitrogen is mixed with the cleaning *water* to reduce the temperature to the vicinity of a *freezing* point, it starts *freezing* with a foreign matter as a nucleus, thereby becoming two states of *water* and ice. The wafer 1 is lifted as designated by an arrow A at a suitable time point of this state. An ice piece 5 in which the matter 4 is as a nucleus is dropped into the *water* 3 by means of its own weight as designated by an arrow B. That is, it can prevent the matter 4 from being adhered to the wafer 1, thereby performing the object of cleaning.